

CRF Errors Corrected by the STIC Systems Branch

Serial Number: 09/866, 020 A

CRF Processing Date: 1/22/2003
 Edited by: [Signature]
 Verified by: [Signature] (STIC staff)

ENTERED

RECEIVED

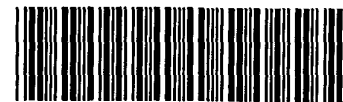
JAN 28 2003

TECH CENTER 1600/2900

- ☐ Changed a file from non-ASCII to ASCII
- ☐ Changed the margins in cases where the sequence text was wrapped down to the next line
- ☐ Edited a format error in the Current Application Data section, specifically: _____
- ☐ Edited the Current Application Data section with the actual current number. The number of sequences for the applicant was ☐ the prior application data; or ☐ other _____
- ☐ Added the mandatory heading and subheadings for "Current Application Data".
- ☐ Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.
- ☐ Changed the spelling of a mandatory field (the headings or subheadings), specifically: _____
- ☐ Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: _____
- ☐ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: _____
- ☐ Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.
- ☐ Inserted colons after headings/subheadings. Headings edited included: _____
- ☐ Deleted extra, invalid, headings used by an applicant, specifically: _____
- ☒ Deleted: ☒ non-ASCII "garbage" at the beginning/end of files; ☐ secretary initials/filename at end of file; ☐ page numbers throughout text; ☐ other invalid text, such as _____
- ☐ Inserted mandatory headings, specifically: _____
- ☐ Corrected an obvious error in the response, specifically: _____
- ☐ Edited identifiers where upper case is used but lower case is required, or vice versa.
- ☐ Corrected an error in the Number of Sequences field, specifically: _____
- ☐ A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.
- ☐ Deleted ending stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: _____
- ☐ Other: _____

*Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

RECEIVED**JAN 28 2003****TECH CENTER 1600/2900****1600****RAW SEQUENCE LISTING**

DATE: 01/24/2003

PATENT APPLICATION: US/09/866,020A

TIME: 07:26:22

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Output Set : N:\CRF4\01242003\I866020A.raw

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2   RAMANATHAN, CHANDRA S
3   TROJNACKI, JOANNE T
4   BOISSARD, CHRISTOPHER G
5   GRIBKOFF, VALENTIN K
6 <120> TITLE OF INVENTION: HUMAN KCNQ5 POTASSIUM CHANNEL METHODS AND COMPOSITIONS
7   THEREOF
8 <130> FILE REFERENCE: D0023
9 <140> CURRENT APPLICATION NUMBER: US/09/866,020A
10 <141> CURRENT FILING DATE: 2001-05-24
11 <150> PRIOR APPLICATION NUMBER: 60/207,389
12 <151> PRIOR FILING DATE: 2000-05-26
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27   gcctcaagtt gcctcttgat cctggagttc gtgatgattg tcgtctttgg tttggagttc 420
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29   aggtttgctc gaaagccctt ctgtgttata gataccattg ttcttatcgc ttcaatagca 540
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47 ggtcatctgg acatgttggt tagaattaaa agccttcaaa cacgtgttga tcaaattctt 1620
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57 gccatcaagc atctgcccag gccagaaact ctgcacccta accctgcagg cttacaggaa 2220
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61 atcagggtcga ccgaggaact gaatatataa ctttcaggga gtgagtcaag tggctcaga 2460
62 ggcagccaag atttttaccc caaatggagg gaatccaaat tgtttataac tgatgaagag 2520
63 gtgggtcccg aagagacaga gacagacact tttgatgccg caccgcagcc tgccagggaa 2580
64 gctgcctttg catcagactc tctaaggact ggaagggtcac gatcatctca gagcatttgt 2640
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69 <212> TYPE: PRT

70 <213> ORGANISM: Homo sapiens

71 <400> SEQUENCE: 2

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76 Leu Gly Gly Gly Gly Gly Leu Arg Glu Ser Arg Arg Gly Lys Gln
77 35 40 45
78 Gly Ala Arg Met Ser Leu Leu Gly Lys Pro Leu Ser Tyr Thr Ser Ser
79 50 55 60
80 Gln Ser Cys Arg Arg Asn Val Lys Tyr Arg Arg Val Gln Asn Tyr Leu
81 65 70 75 80
82 Tyr Asn Val Leu Glu Arg Pro Arg Gly Trp Ala Phe Ile Tyr His Ala
83 85 90 95
84 Phe Val Phe Leu Leu Val Phe Gly Cys Leu Ile Leu Ser Val Phe Ser
85 100 105 110
86 Thr Ile Pro Glu His Thr Lys Leu Ala Ser Ser Cys Leu Leu Ile Leu
87 115 120 125
88 Glu Phe Val Met Ile Val Val Phe Gly Leu Glu Phe Ile Ile Arg Ile
89 130 135 140
90 Trp Ser Ala Gly Cys Cys Arg Tyr Arg Gly Trp Gln Gly Arg Leu
91 145 150 155 160
92 Arg Phe Ala Arg Lys Pro Phe Cys Val Ile Asp Thr Ile Val Leu Ile
93 165 170 175
94 Ala Ser Ile Ala Val Val Ser Ala Lys Thr Gln Gly Asn Ile Phe Ala

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97          195          200          205
98  Arg Met Asp Arg Arg Gly Gly Thr Trp Lys Leu Leu Gly Ser Val Val
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100  Tyr Ala His Ser Lys Glu Leu Ile Thr Ala Trp Tyr Ile Gly Phe Leu
101  225          230          235          240
102  Val Leu Ile Phe Ser Ser Phe Leu Val Tyr Leu Val Glu Lys Asp Ala
103          245          250          255
104  Asn Lys Glu Phe Ser Thr Tyr Ala Asp Ala Leu Trp Trp Gly Thr Ile
105          260          265          270
106  Thr Leu Thr Thr Ile Gly Tyr Gly Asp Lys Thr Pro Leu Thr Trp Leu
107          275          280          285
108  Gly Arg Leu Leu Ser Ala Gly Phe Ala Leu Leu Gly Ile Ser Phe Phe
109          290          295          300
110  Ala Leu Pro Ala Gly Ile Leu Gly Ser Gly Phe Ala Leu Lys Val Gln
111  305          310          315          320
112  Glu Gln His Arg Gln Lys His Phe Glu Lys Arg Arg Asn Pro Ala Ala
113          325          330          335
114  Asn Leu Ile Gln Cys Val Trp Arg Ser Tyr Ala Ala Asp Glu Lys Ser
115          340          345          350
116  Val Ser Ile Ala Thr Trp Lys Pro His Leu Lys Ala Leu His Thr Cys
117          355          360          365
118  Ser Pro Thr Lys Lys Glu Gln Gly Glu Ala Ser Ser Ser Gln Lys Leu
119          370          375          380
120  Ser Phe Lys Glu Arg Val Arg Met Ala Ser Pro Arg Gly Gln Ser Ile
121  385          390          395          400
122  Lys Ser Arg Gln Ala Ser Val Gly Asp Arg Arg Ser Pro Ser Thr Asp
123          405          410          415
124  Ile Thr Ala Glu Gly Ser Pro Thr Lys Val Gln Lys Ser Trp Ser Phe
125          420          425          430
126  Asn Asp Arg Thr Arg Phe Arg Pro Ser Leu Arg Leu Lys Ser Ser Gln
127          435          440          445
128  Pro Lys Pro Val Ile Asp Ala Asp Thr Ala Leu Gly Thr Asp Asp Val
129          450          455          460
130  Tyr Asp Glu Lys Gly Cys Gln Cys Asp Val Ser Val Glu Asp Leu Thr
131  465          470          475          480
132  Pro Pro Leu Lys Thr Val Ile Arg Ala Ile Arg Ile Met Lys Phe His
133          485          490          495
134  Val Ala Lys Arg Lys Phe Lys Glu Thr Leu Arg Pro Tyr Asp Val Lys
135          500          505          510
136  Asp Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met Leu Cys Arg
137          515          520          525
138  Ile Lys Ser Leu Gln Thr Arg Val Asp Gln Ile Leu Gly Lys Gly Gln
139          530          535          540
140  Ile Thr Ser Asp Lys Lys Ser Arg Glu Lys Ile Thr Ala Glu His Glu
141  545          550          555          560
142  Thr Thr Asp Asp Leu Ser Met Leu Gly Arg Val Val Lys Val Glu Lys
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DATE: 01/24/2003

PATENT APPLICATION: US/09/866,020A

TIME: 07:26:22

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Output Set: N:\CRF4\01242003\I866020A.raw

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148      Phe Gln Ile Pro Pro Phe Glu Cys Glu Gln Thr Ser Asp Tyr Gln Ser
149              610                      615                      620
150      Pro Val Asp Ser Lys Asp Leu Ser Gly Ser Ala Gln Asn Ser Gly Cys
151      625                      630                      635                      640
152      Leu Ser Arg Ser Thr Ser Ala Asn Ile Ser Arg Gly Leu Gln Phe Ile
153              645                      650                      655
154      Leu Thr Pro Asn Glu Phe Ser Ala Gln Thr Phe Tyr Ala Leu Ser Pro
155              660                      665                      670
156      Thr Met His Ser Gln Ala Thr Gln Val Pro Ile Ser Gln Ser Asp Gly
157              675                      680                      685
158      Ser Ala Val Ala Ala Thr Asn Thr Ile Ala Asn Gln Ile Asn Thr Ala
159              690                      695                      700
160      Pro Lys Pro Ala Ala Pro Thr Thr Leu Gln Ile Pro Pro Pro Leu Pro
161      705                      710                      715                      720
162      Ala Ile Lys His Leu Pro Arg Pro Glu Thr Leu His Pro Asn Pro Ala
163              725                      730                      735
164      Gly Leu Gln Glu Ser Ile Ser Asp Val Thr Thr Cys Leu Val Ala Ser
165              740                      745                      750
166      Lys Glu Asn Val Gln Val Ala Gln Ser Asn Leu Thr Lys Asp Arg Ser
167              755                      760                      765
168      Met Arg Lys Ser Phe Asp Met Gly Gly Glu Thr Leu Leu Ser Val Cys
169      770                      775                      780
170      Pro Met Val Pro Lys Asp Leu Gly Lys Ser Leu Ser Val Gln Asn Leu
171      785                      790                      795                      800
172      Ile Arg Ser Thr Glu Glu Leu Asn Ile Gln Leu Ser Gly Ser Glu Ser
173              805                      810                      815
174      Ser Gly Ser Arg Gly Ser Gln Asp Phe Tyr Pro Lys Trp Arg Glu Ser
175              820                      825                      830
176      Lys Leu Phe Ile Thr Asp Glu Glu Val Gly Pro Glu Glu Thr Glu Thr
177              835                      840                      845
178      Asp Thr Phe Asp Ala Ala Pro Gln Pro Ala Arg Glu Ala Ala Phe Ala
179              850                      855                      860
180      Ser Asp Ser Leu Arg Thr Gly Arg Ser Arg Ser Ser Gln Ser Ile Cys
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192 <222> LOCATION: (1)..(21)
193 <220> FEATURE:

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RAW SEQUENCE LISTING

DATE: 01/24/2003

PATENT APPLICATION: US/09/866,020A

TIME: 07:26:22

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Output Set: N:\CRF4\01242003\I866020A.raw

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211     tttataagcc cgttaccttt taattgcatg aaaatgcatg tttagggatg gctaaaattc 180
212     caagggtgat cgacattaac ccactcattt agtaatgtac cttgagttaa aaagcctgag 240
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RAW SEQUENCE LISTING ERROR SUMMARY DATE: 01/24/2003
PATENT APPLICATION: US/09/866,020A TIME: 07:26:23

Input Set : N:\Crf4\01222003\I866020.raw
Output Set: N:\CRF4\01242003\I866020A.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 6

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/866,020A

DATE: 01/24/2003

TIME: 07:26:23

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Output Set: N:\CRF4\01242003\I866020A.raw

L:206 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:4



1600

RAW SEQUENCE LISTING

DATE: 01/24/2003

PATENT APPLICATION: US/09/866,020A

TIME: 07:25:49

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1 <110> APPLICANT: DWORETZKY, STEVEN I
 2 RAMANATHAN, CHANDRA S
 3 TROJNACKI, JOANNE T
 4 BOISSARD, CHRISTOPHER G
 5 GRIBKOFF, VALENTIN K
 6 <120> TITLE OF INVENTION: HUMAN KCNQ5 POTASSIUM CHANNEL METHODS AND COMPOSITIONS
 7 THEREOF
 8 <130> FILE REFERENCE: D0023
 9 <140> CURRENT APPLICATION NUMBER: US/09/866,020A
 10 <141> CURRENT FILING DATE: 2001-05-24
 11 <150> PRIOR APPLICATION NUMBER: 60/207,389
 12 <151> PRIOR FILING DATE: 2000-05-26
 13 <160> NUMBER OF SEQ ID NOS: 31
 14 <170> SOFTWARE: PatentIn Ver. 2.1

Does Not Comply
Corrected Diskette Needed

ERRORED SEQUENCES

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 773 <212> TYPE: PRT
 774 <213> ORGANISM: Homo sapiens
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 788 Trp Ala Phe Val Tyr His Val Phe Ile Phe Leu Leu Val Phe Ser Cys
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 790 Leu Val Leu Ser Val Leu Ser Thr Ile Gln Glu His Gln Glu Leu Ala
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 794 Leu Glu Tyr Ile Val Arg Val Trp Ser Ala Gly Cys Cys Cys Arg Tyr
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*RAW SEQUENCE LISTING

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PATENT APPLICATION: US/09/866,020A

TIME: 07:25:49

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Output Set: N:\CRF4\01242003\I866020A.raw

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799           180           185           190
800   Thr Gln Gly Asn Ile Phe Ala Thr Ser Ala Leu Arg Ser Met Arg Phe
801           195           200           205
802   Leu Gln Ile Leu Arg Met Val Arg Met Asp Arg Arg Gly Gly Thr Trp
803           210           215           220
804   Lys Leu Leu Gly Ser Val Val Tyr Ala His Ser Lys Glu Leu Ile Thr
805           225           230           235           240
806   Ala Trp Tyr Ile Gly Phe Leu Val Leu Ile Phe Ala Ser Phe Leu Val
807           245           250           255
808   Tyr Leu Ala Glu Lys Asp Ala Asn Ser Asp Phe Ser Ser Tyr Ala Asp
809           260           265           270
810   Ser Leu Trp Trp Gly Thr Ile Thr Leu Thr Thr Ile Gly Tyr Gly Asp
811           275           280           285
812   Lys Thr Pro His Thr Trp Leu Gly Arg Val Leu Ala Ala Gly Phe Ala
813           290           295           300
814   Leu Leu Gly Ile Ser Phe Phe Ala Leu Pro Ala Gly Ile Leu Gly Ser
815           305           310           315           320
816   Gly Phe Ala Leu Lys Val Gln Glu Gln His Arg Gln Lys His Phe Glu
817           325           330           335
818   Lys Arg Arg Met Pro Ala Ala Asn Leu Ile Gln Ala Ala Trp Arg Leu
819           340           345           350
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821           355           360           365
822   Tyr Asp Ser Ile Leu Pro Ser Phe Arg Glu Leu Ala Leu Leu Phe Glu
823           370           375           380
824   His Val Gln Arg Ala Arg Asn Gly Gly Leu Arg Pro Leu Glu Val Arg
825           385           390           395           400
826   Arg Ala Pro Val Pro Asp Gly Ala Pro Ser Arg Tyr Pro Pro Val Ala
827           405           410           415
828   Thr Cys His Arg Pro Gly Ser Thr Ser Phe Cys Pro Gly Glu Ser Ser
829           420           425           430
830   Arg Met Gly Ile Lys Asp Arg Ile Arg Met Gly Ser Ser Gln Arg Arg
831           435           440           445
832   Thr Gly Pro Ser Lys Gln Gln Leu Ala Pro Pro Thr Met Pro Thr Ser
833           450           455           460
834   Pro Ser Ser Glu Gln Val Gly Glu Ala Thr Ser Pro Thr Lys Val Gln
835           465           470           475           480
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837           485           490           495
838   Leu Lys Pro Arg Thr Ser Ala Glu Asp Ala Pro Ser Glu Glu Val Ala
839           500           505           510
840   Glu Glu Lys Ser Tyr Gln Cys Glu Leu Thr Val Asp Asp Ile Met Pro
841           515           520           525
842   Ala Val Lys Thr Val Ile Arg Ser Ile Arg Ile Leu Lys Phe Leu Val
843           530           535           540
844   Ala Lys Arg Lys Phe Lys Glu Thr Leu Arg Pro Tyr Asp Val Lys Asp

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PATENT APPLICATION: US/09/866,020A

TIME: 07:25:49

Input Set : N:\Crf4\01212003\I866020.raw

Output Set: N:\CRF4\01242003\I866020A.raw

```

845      545      550      555      560
846 Val Ile Glu Gln Tyr Ser Ala Gly His Leu Asp Met Leu Gly Arg Ile
847      565      570      575
848 Lys Ser Leu Gln Thr Arg Val Asp Gln Ile Val Gly Arg Gly Pro Gly
849      580      585      590
850 Asp Arg Lys Ala Arg Glu Lys Gly Asp Lys Gly Pro Ser Asp Ala Glu
851      595      600      605
852 Val Val Asp Glu Ile Ser Met Met Gly Arg Val Val Lys Val Glu Lys
853      610      615      620
854 Gln Val Gln Ser Ile Glu His Lys Leu Asp Leu Leu Gly Phe Tyr
855      625      630      635      640
856 Ser Arg Cys Leu Arg Ser Gly Thr Ser Ala Ser Leu Gly Ala Val Gln
857      645      650      655
858 Val Pro Leu Phe Asp Pro Asp Ile Thr Ser Asp Tyr His Ser Pro Val
859      660      665      670
860 Asp His Glu Asp Ile Ser Val Ser Ala Gln Thr Leu Ser Ile Ser Arg
861      675      680      685
862 Ser Val Ser Thr Asn Met Asp
863      690      695
E--> 864

```

22

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 01/24/2003
PATENT APPLICATION: US/09/866,020A TIME: 07:25:50

Input Set : N:\Crf4\01212003\I866020.raw
Output Set: N:\CRF4\01242003\I866020A.raw

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 6